

CLAIMS:

1. A fluorescent lamp whereof the fluorescent layer consists of from 1 to 3 phosphors, such that said lamp has a peak wavelength in each of the red, green and deep-red wavelength regions, wherein said phosphors are water-dispersible, and wherein said deep-red phosphor has the same basic structure as a non-activated green, water-dispersible phosphor.
2. A fluorescent lamp as claimed in claim 1, wherein said phosphor having a peak wavelength in the red wavelength region is an Eu^{3+} activated phosphor, preferably $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$.
3. A fluorescent lamp as claimed in claim 1, wherein said phosphor having a peak wavelength in the green wavelength region is a Tb^{3+} activated phosphor, preferably selected from the group consisting of $(\text{CeGdMg})\text{Al}_{11}\text{O}_{19}:\text{Tb}^{3+}$; $\text{GdMgB}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Tb}^{2+}$ and $\text{LaPO}_4:\text{Ce}^{3+}, \text{Tb}^{3+}$.
4. A fluorescent lamp as claimed in claim 1, wherein said phosphor having a peak wavelength in the deep-red wavelength region is a Mn^{2+} activated phosphor, preferably $(\text{GdMg})\text{B}_5\text{O}_{10}:\text{Ce}^{2+}, \text{Mn}^{3+}$.
5. A fluorescent lamp as claimed in claim 4, wherein said phosphor having a peak wavelength in the deep-red wavelength region is further activated to show a peak wavelength in the green wavelength region.
6. A fluorescent lamp as claimed in claim 5, wherein said phosphor is a $\text{Tb}^{3+}, \text{Mn}^{2+}$ activated phosphor, preferably $(\text{GdMg})\text{B}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Tb}^{3+}, \text{Mn}^{2+}$.
7. A fluorescent lamp as claimed in claim 1, wherein said phosphors consist of:
from 40-70%, preferably 50% b.w. of a red, Eu^{3+} activated phosphor,
from 10-30%, preferably 17% b.w. of a green Tb^{3+} activated phosphor,
from 10-50%, preferably 35% b.w. of a deep-red Mn^{2+} activated phosphor.

8. A fluorescent lamp as claimed in claim 7, wherein said Mn^{2+} activated phosphor is at least partially replaced by a $\text{Tb}^{3+}, \text{Mn}^{2+}$ activated phosphor.

5 9. A fluorescent lamp as claimed in claim 1, wherein said lamp has a colour point (x, y) wherein x is a number in the range from 0,475 to 0,495, preferably 0,484, and y is a number in the range from 0,390 to 0,405, preferably 0,399.

10 10. A fluorescent lamp as claimed in claim 1, wherein said lamp has a red percentage LD in the range from 4-8, preferably 6,4.

11. Use of an aqueous suspension of a red, Eu^{3+} activated phosphor, a green, Tb^{3+} activated phosphor and a deep-red, $\text{Tb}^{3+}, \text{Mn}^{2+}$ activated phosphor in the production of a fluorescent lamp.

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12. Use according to claim 11, wherein said aqueous suspension consists of 40-70%, preferably 50% b.w. of $\text{Y}_2\text{O}_3:\text{Eu}^{3+}$, 10-30%, preferably 17% b.w. of $(\text{GdMg})\text{B}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Tb}^{3+}$, and 10-50%, preferably 35% b.w. of $(\text{GdMg})\text{B}_5\text{O}_{10}:\text{Ce}^{3+}, \text{Tb}^{3+}, \text{Mn}^{2+}$. Abstract